

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1 1-24. (cancelled)

2

1 25. (currently amended) A method for providing automatic performance
2 optimization of virtualized storage allocation within a network of operating storage
3 elements, comprising:

4 administering said network of operating storage elements, said administering
5 including:

6 providing storage from said network of operating storage elements to a
7 plurality of storage users;

8 receiving from a requesting storage user of said plurality of storage users,
9 a request for additional storage from said network of operating storage elements, for
10 storage of data;

11 determining workload requirements of the requesting storage user making
12 the request;

13 analyzing system parameters including performance characteristics of
14 storage volumes within the operating network; and

15 providing additional storage from said network of operating storage
16 elements to meet the determined workload requirements of the requesting storage user
17 and to meet competing workload requirements based on the analysis of the system
18 parameters;

19 wherein the determining workload requirements of the user making the request
20 further comprises automatically creating workload requirements based on observations of
21 storage access patterns of a said requesting storage user wherein said automatically
22 creating workload requirements includes observing storage access patterns in a selected
23 storage in said network of operating storage elements in the environment of said
24 requesting storage user, storing observed storage access patterns of said selected storage

25 in a database, and creating a workload description for said requesting storage user based
26 on the observed storage access patterns of the selected storage of the requesting storage
27 user.

1 26. (currently amended) The method of claim 25, wherein the providing storage to
2 meet the workload requirements of the requesting storage user is further based on the
3 workload requirements of the requesting storage user and storage requirements for the
4 data.

1 27. (currently amended) The method of claim 25, wherein the providing storage to
2 meet the workload requirements of the requesting storage user further comprises
3 selecting storage locations that meet performance and space requirements of the request.

1 28. (Original) The method of claim 27, wherein the selecting storage locations
2 that meet the performance and space requirements are provided with the request for
3 storage.

1 29. (Original) The method of claim 27, wherein the selecting storage locations
2 that meet the performance and space requirements are provided through a storage policy
3 mechanism.

1 30. (currently amended) The method of claim 25, wherein the analyzing system
2 parameters further comprises determining the workload attributes of the requesting
3 storage user and desired levels of performance, retaining the latest information about the
4 available capacity within the network of storage elements, determining performance
5 characteristics of the storage devices at different locations within the network as a
6 function of the workload requirements of the requesting storage user, and determining a
7 presence and attributes of competing workloads sharing the storage devices over
8 extended periods of time.

1 31. (currently amended) The method of claim 25, wherein the determining
2 workload requirements of the requesting storage user making the request further
3 comprises using canned workload descriptions that are based on characterizations of user
4 environments across various industries and applications.

1 32. (cancelled)

1 33. (currently amended) The method of claim 25, wherein the determining
2 workload requirements of the requesting storage user making the request further
3 comprises using intelligent software components that analyze workload descriptions for
4 an application of the requesting storage user.

1 34. (Original) The method of claim 25 further comprising accessing a
2 virtualization engine and volume managers to stripe data within a virtual disk across
3 managed storage devices.

1 35. (Original) The method of claim 34, wherein the striping data further
2 comprises determining how to relocate virtual disks to meet a desired level of
3 performance.

1 36. (Original) The method of claim 25, further comprising performing a
2 calibration process to discover the performance capabilities of the underlying storage
3 devices.

1 37-43. (cancelled)